

REMARKS

Claims 1-34 are pending and have been rejected. Claims 1-34 remain in the case.

Claims 1-34 are rejected under Section 103(a) based on Atchinson *et al.* (US 6,371,637) in view of Pichler *et al.* (US 5,929,562). The examiner urges that Atchinson *et al.* discloses “a method for providing a replaceable light source comprising the steps of manufacturing a light source (32) on a flat, flexible substrate (37) in a substantially two-dimensional configuration and flexing and removably placing the light source (2) in a curved three dimensional configuration within a lighting fixture (not shown).” The examiner admits that Atchinson *et al.* do not disclose the method of shipping the light source, but he argues that “it was a well known and widely used practice to those of ordinary skill in the art to ship a two-dimensional product in a two dimensional configuration to simplify packing, and therefore would have been obvious to the same.”

Atchinson *et al.* does not disclose “removably placing the light source in a curved three dimensional configuration within a lighting fixture.” In fact, the examiner states that removably placing the light source in the lighting fixture is “not shown.” However, he fails even to explain what possible disclosure in Atchinson or the secondary reference to Pilcher *et al.* would have directed a skilled artisan to the feature of removably placing the light source in a curved three dimensional configuration within a lighting fixture. On this basis, the present rejection fails on its face even to **state a prima facie** case of obviousness.

The point sources 32 of Atchinson *et al.* are mounted on flexible substrate 37 to form array 20, which then is placed within housing 22. Housing 22 is not a light fixture. Moreover, array 20 is not **removably** placed within housing 22. Atchinson *et al.* teaches that once element array 20 is placed within housing 22, end caps are attached with adhesive “such that the two end pieces are **permanently secured**” (column 10, lines 22-40). There also is no teaching of removably placing the combination of array 20 in housing 22 within a lighting fixture. The resulting product in Atchinson *et al.* is designed to be affixed, for example, to the rear windshield of a car (column 4, line 22-24) or on the exterior side panel of a vehicle (column 4, lines 56-57). It is not removably placed within a lighting fixture. Thus, there is no teaching in Atchinson *et al.* of “removably placing the light source in a curved three dimensional configuration within a lighting fixture.”

Furthermore, Atchinson *et al.* discloses a flexible printed circuit board with LEDs. Each LED in Atchinson *et al.* is a point source. Thus, Atchinson *et al.* refers to a “light emitting diode array.” The **point sources** are well illustrated in Figures 10a and 10b. Such light sources are made from rigid, crystalline silicon. See, for example, column 6, lines 41-46, which discloses LED 63 made of semiconductor material which might include GaP, GaAsP/GaP, GaAlAs or InGaAlP. These **individual diodes** are mounted on a flexible substrate (“**each** of the light emitting diode elements 32 are surface mounted to a flexible substrate” – column 5, lines 16-17). Thus, Atchinson fails to teach “a flexible organic light emitting diode layer on a single, flat, flexible two-dimensional substrate” as presently claimed.

The manufacturing method of Atchinson does not deposit a flexible organic light emitting diode **layer** on a flexible substrate, but rather discrete, rigid, inorganic LED point sources made of a semiconductor material on a flexible printed circuit board substrate. There is no deposition of a flexible organic light emitting diode layer on a flexible printed circuit board substrate in Atchinson *et al.*, because there is no light emitting diode **layer** in Atchinson *et al.* Furthermore, the point light sources are not **organic** light emitting diodes. Thus, the presently-claimed light sources are distinguished from a *two-dimensional array* of point sources.

The examiner admits that Atchinson *et al.* does not disclose the area emitting light source having a flexible organic light emitting diode layer on a single, flat, flexible, two-dimensional substrate, the diode layer including two electrodes, at least one of the electrodes being transparent, but cites Pilcher *et al.* for these features. He urges that Pilcher *et al.* teaches “an analogous light source...therefore it would have been obvious to incorporate the light source of Pilcher *et al.* into the method of Atchinson *et al.* in order to provide a thinner device.”

Pilcher *et al.* teaches organic light emitting devices. It is analogous to Atchinson *et al.* in that a plurality of individual devices is combined on a single substrate. Therefore the examiner urges that it would have been obvious to incorporate the OLED of Pilcher *et al.* in the method of Atchinson *et al.* However, even were this substitution to be made, the result would not result in the present invention. The combination still fails to teach the present invention because it does not overcome the failure of Atchinson to teach “removably placing the light source in a curved three dimensional configuration within a lighting fixture.” As noted above, the examiner has failed to explain what possible disclosure in Atchinson or the

secondary reference to Pilcher *et al.* would have directed a skilled artisan to the feature of removably placing the light source in a curved three dimensional configuration within a lighting fixture.

Moreover, Pilcher *et al.* does not teach depositing a flexible organic light emitting diode layer on a single, flat flexible two-dimensional substrate, which single substrate is then flexed to place it in a lighting fixture. Thus, it fails to overcome the failure of Atchinson *et al.* to teach “flexing the single, flat, flexible two-dimensional substrate of the light source.” In Pilcher *et al.*, a plurality of individual devices is made. Each of these individual devices has a substrate. These individual devices are then laminated in a second substrate. This does not suggest the depositing of a flexible diode layer on the same substrate that is flexed so that it can be removably placed in a lighting fixture. Even assuming, *arguendo*, that this second substrate is flexed, it is **not** the same single substrate on which the flexible organic light emitting diode **layer** was deposited, as presently claimed. Therefore, Pilcher *et al.* also fails to overcome this deficiency in Atchinson *et al.*

The present invention provides an advantage in that an additional, flexible printed circuit board is not required for mounting the light sources to provide a curved light source. Therefore, in the present invention, it is critical that the two-dimensional substrate area over which the materials are coated is itself flexible and can be flexed in the 3D configuration. There is no teaching in any of the cited references of forming a light source on a single flat, flexible, two-dimensional area and then flexing and removably placing the substrate in a curved three-dimensional configuration within a lighting fixture.

In summary, Atchinson *et al.* teaches the use of rigid inorganic LED point light sources made from rigid, crystalline silicon. Although each of these light sources is mounted on a flexible, printed circuit board, the light sources themselves are not flexible. Atchinson *et al.* does not deposit an organic light emitting diode layer on a flat, flexible substrate, but mounts individual inorganic LED point sources of a flexible circuit board. Moreover, Atchinson *et al.* does not teach removably placing the light source in a fixture; the device itself is the fixture. If Pilcher *et al.* is combined with Atkinson *et al.*, then a plurality of OLED light sources would be substituted for the rigid inorganic LED point sources of Atchinson *et al.* on the separate, flexible printed circuit board, and the deficiencies noted above with respect to Atchinson *et al.* have not been overcome. In contrast, the present invention provides a single area-light-

emitting substrate that is flexed and placed into a light fixture. No *prima facie* case of obviousness exists based on the combination of Atchinson *et al.* and Pilcher *et al.*

If there are any problems with this response, or if the examiner believes that a telephone interview would advance the prosecution of the present application, Applicant would appreciate a telephone call. In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,

EASTMAN KODAK

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DATE

/BARBARA A. MCDOWELL/

BARBARA A. MCDOWELL

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